

GURVICH, I. A.

Nazarov, I. N., Kuznetsova, A. I. & Gurvich, I. A. - "Acetylene derivatives.
106. Investigation of heterocyclic compounds. X. Condensation of vinylacetylene
with tetrahydro- -thiopyrones. Synthesis of 4-vinyl-ethynyl-tetrahydrothi-
pyran-4-ols." (p. 376)

SC: Journal Of General Chemistry, (Zhurnal Obshchei Khimii), 1950, Vol. 20, No. 2

GURVICH, I. A.

"Synthesis and Conversion of Tetrahydro-gamma-thio-pyraned." Sub 17 Apr 51,
Inst of Organic Chemistry, Acad Sci USSR. *Cand Chemical Sci p 14*

Dissertations presented for science and engineering degrees in Moscow
during 1951.

SO: Sum. No. 480, 9 May 55

NAZAROV, I. N., GURVICH, I. A., KUZNETSOVA, A. I.

Thiopyrones

Acetylene derivatives. 141. Heterocyclic compounds. Part 17. Structure and formation mechanism of tetrahydro-thiopyrones. Reduction of tetrahydro-thiopyrones, according to Kizhner. Zhur. ob. khim., 22, no. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 195~~6~~² Uncl.

NAZAROV, I. N., GURVICH, I. A. KUZNETSOVA, A. I.

Thiopyrones

Acetylene derivatives. 142. Heterocyclic compounds Part 18. Diene synthesis from dioxides of substituted-thiopyrones. Zhur. ob. khim., 22, no. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.

NAZAROV, I. N., GURVICH, I. A., KUZNETSOVA, A. I.

Thiochromanones

Acetylene derivatives. Part 143. Heterocyclic compounds. No. 19. Stereoisomerism of hydrogenated thiochromanones. Zhur. ob. khim. 22, no. 7, 1952.

Monthly List of Russian Accessions, Library of Congress, November, 1952. Unclassified.

RUZNETSOVA, A. I.

Isomerism

Acetylene derivatives. Part 144. Heterocyclic compounds. No. 20. Stereoisomerism of hydrogenated thiochromanones. Part 2. Zhur. ob. khim. 22 no. 8, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. Unclassified.

USSR/Chemistry - Sulfur Organic
Compounds; Steroids

Nov/Dec 53

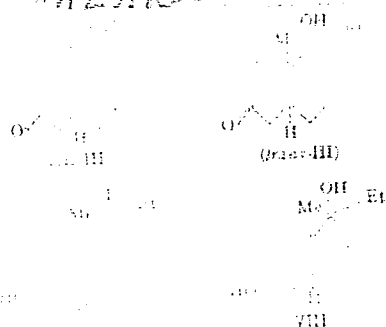
"Synthesis of Sulfur Analogs of Steroid Compounds
by Diene Condensation of Cyclic Gamma-Ketosulfones
With Bicyclic Dienes," I.N. Nazarov, I.A. Gurvich,
A.I. Kuznetsova

Iz Ak Nauk SSSR, OZhN, No 6, pp 1091-1099

Synthesized a number of tetracyclic ketosulfones
(among them compds having the structural skeletons
of thiopyranophenathrene and thiochromanoindane)
and investigated their properties.

273713

E. N. KAZAROV



The cis-epimer (IV) of III, m. 125-126°, gave a 2,4-dinitrophenylhydrazone, m. 165-66°. Hydrogenation of cis-9-methyl-1-vinyl-6-oxo-5,8-dihydro-1-naphthalene over PtO₂ in EtOH gave cis-9-methyl-1-ethyl-6-oxo-5,8-dihydro-1-naphthalene (cis-VI) b. 101-5°, n_D^{20} 1.4910, d_4^{20} 0.9607, whose semicarbazone, m. 167-78°. V (0.3 g.) dried azeotropically with MePh was treated with 21 mg. *p*-MeC₆H₄SO₃Na and 20 mg. pyridine, again dried azeotropically, cooled, washed, and evaporated. The 0.7 g. residual oil was hydrogenated over PtO₂ in EtOH yielding an oil, m. 110-111°, which in C₁₁H₁₄

was chromatographed on Al₂O₃ followed with pet. ether, then successively with CCl₄, EtOH, and MeOH gave 4 fractions. The first two fractions were 2,4-dinitrophenylhydrazones of 10.5% and 1.5% respectively. The third fraction was a solid, m. 125-6°, which was identified as (trans-III). The fourth fraction was a solid, m. 125-6°, which was identified as (trans-III). The fifth fraction was a solid, m. 125-6°, which was identified as (trans-III). The sixth fraction was a solid, m. 125-6°, which was identified as (trans-III). The seventh fraction was a solid, m. 125-6°, which was identified as (trans-III). The eighth fraction was a solid, m. 125-6°, which was identified as (trans-III). The ninth fraction was a solid, m. 125-6°, which was identified as (trans-III). The tenth fraction was a solid, m. 125-6°, which was identified as (trans-III). The eleventh fraction was a solid, m. 125-6°, which was identified as (trans-III). The twelfth fraction was a solid, m. 125-6°, which was identified as (trans-III). The thirteenth fraction was a solid, m. 125-6°, which was identified as (trans-III). The fourteenth fraction was a solid, m. 125-6°, which was identified as (trans-III). The fifteenth fraction was a solid, m. 125-6°, which was identified as (trans-III). The sixteenth fraction was a solid, m. 125-6°, which was identified as (trans-III). The seventeenth fraction was a solid, m. 125-6°, which was identified as (trans-III). The eighteenth fraction was a solid, m. 125-6°, which was identified as (trans-III). The nineteenth fraction was a solid, m. 125-6°, which was identified as (trans-III). The twentieth fraction was a solid, m. 125-6°, which was identified as (trans-III). The twenty-first fraction was a solid, m. 125-6°, which was identified as (trans-III). The twenty-second fraction was a solid, m. 125-6°, which was identified as (trans-III). The twenty-third fraction was a solid, m. 125-6°, which was identified as (trans-III). The twenty-fourth fraction was a solid, m. 125-6°, which was identified as (trans-III). The twenty-fifth fraction was a solid, m. 125-6°, which was identified as (trans-III). The twenty-sixth fraction was a solid, m. 125-6°, which was identified as (trans-III). The twenty-seventh fraction was a solid, m. 125-6°, which was identified as (trans-III). The twenty-eighth fraction was a solid, m. 125-6°, which was identified as (trans-III). The twenty-ninth fraction was a solid, m. 125-6°, which was identified as (trans-III). The thirtieth fraction was a solid, m. 125-6°, which was identified as (trans-III). The thirty-first fraction was a solid, m. 125-6°, which was identified as (trans-III). The thirty-second fraction was a solid, m. 125-6°, which was identified as (trans-III). The thirty-third fraction was a solid, m. 125-6°, which was identified as (trans-III). The thirty-fourth fraction was a solid, m. 125-6°, which was identified as (trans-III). The thirty-fifth fraction was a solid, m. 125-6°, which was identified as (trans-III). The thirty-sixth fraction was a solid, m. 125-6°, which was identified as (trans-III). The thirty-seventh fraction was a solid, m. 125-6°, which was identified as (trans-III). The thirty-eighth fraction was a solid, m. 125-6°, which was identified as (trans-III). The thirty-ninth fraction was a solid, m. 125-6°, which was identified as (trans-III). The fortieth fraction was a solid, m. 125-6°, which was identified as (trans-III). The forty-first fraction was a solid, m. 125-6°, which was identified as (trans-III). The forty-second fraction was a solid, m. 125-6°, which was identified as (trans-III). The forty-third fraction was a solid, m. 125-6°, which was identified as (trans-III). The forty-fourth fraction was a solid, m. 125-6°, which was identified as (trans-III). The forty-fifth fraction was a solid, m. 125-6°, which was identified as (trans-III). The forty-sixth fraction was a solid, m. 125-6°, which was identified as (trans-III). The forty-seventh fraction was a solid, m. 125-6°, which was identified as (trans-III). The forty-eighth fraction was a solid, m. 125-6°, which was identified as (trans-III). The forty-ninth fraction was a solid, m. 125-6°, which was identified as (trans-III). The fiftieth fraction was a solid, m. 125-6°, which was identified as (trans-III). The fifty-first fraction was a solid, m. 125-6°, which was identified as (trans-III). The fifty-second fraction was a solid, m. 125-6°, which was identified as (trans-III). The fifty-third fraction was a solid, m. 125-6°, which was identified as (trans-III). The fifty-fourth fraction was a solid, m. 125-6°, which was identified as (trans-III). The fifty-fifth fraction was a solid, m. 125-6°, which was identified as (trans-III). The fifty-sixth fraction was a solid, m. 125-6°, which was identified as (trans-III). The fifty-seventh fraction was a solid, m. 125-6°, which was identified as (trans-III). The fifty-eighth fraction was a solid, m. 125-6°, which was identified as (trans-III). The fifty-ninth fraction was a solid, m. 125-6°, which was identified as (trans-III). The sixtieth fraction was a solid, m. 125-6°, which was identified as (trans-III). The sixty-first fraction was a solid, m. 125-6°, which was identified as (trans-III). The sixty-second fraction was a solid, m. 125-6°, which was identified as (trans-III). The sixty-third fraction was a solid, m. 125-6°, which was identified as (trans-III). The sixty-fourth fraction was a solid, m. 125-6°, which was identified as (trans-III). The sixty-fifth fraction was a solid, m. 125-6°, which was identified as (trans-III). The sixty-sixth fraction was a solid, m. 125-6°, which was identified as (trans-III). The sixty-seventh fraction was a solid, m. 125-6°, which was identified as (trans-III). The sixty-eighth fraction was a solid, m. 125-6°, which was identified as (trans-III). The sixty-ninth fraction was a solid, m. 125-6°, which was identified as (trans-III). The seventieth fraction was a solid, m. 125-6°, which was identified as (trans-III). The seventy-first fraction was a solid, m. 125-6°, which was identified as (trans-III). The seventy-second fraction was a solid, m. 125-6°, which was identified as (trans-III). The seventy-third fraction was a solid, m. 125-6°, which was identified as (trans-III). The seventy-fourth fraction was a solid, m. 125-6°, which was identified as (trans-III). The seventy-fifth fraction was a solid, m. 125-6°, which was identified as (trans-III). The seventy-sixth fraction was a solid, m. 125-6°, which was identified as (trans-III). The seventy-seventh fraction was a solid, m. 125-6°, which was identified as (trans-III). The seventy-eighth fraction was a solid, m. 125-6°, which was identified as (trans-III). The seventy-ninth fraction was a solid, m. 125-6°, which was identified as (trans-III). The eightieth fraction was a solid, m. 125-6°, which was identified as (trans-III). The eighty-first fraction was a solid, m. 125-6°, which was identified as (trans-III). The eighty-second fraction was a solid, m. 125-6°, which was identified as (trans-III). The eighty-third fraction was a solid, m. 125-6°, which was identified as (trans-III). The eighty-fourth fraction was a solid, m. 125-6°, which was identified as (trans-III). The eighty-fifth fraction was a solid, m. 125-6°, which was identified as (trans-III). The eighty-sixth fraction was a solid, m. 125-6°, which was identified as (trans-III). The eighty-seventh fraction was a solid, m. 125-6°, which was identified as (trans-III). The eighty-eighth fraction was a solid, m. 125-6°, which was identified as (trans-III). The eighty-ninth fraction was a solid, m. 125-6°, which was identified as (trans-III). The ninetieth fraction was a solid, m. 125-6°, which was identified as (trans-III). The ninety-first fraction was a solid, m. 125-6°, which was identified as (trans-III). The ninety-second fraction was a solid, m. 125-6°, which was identified as (trans-III). The ninety-third fraction was a solid, m. 125-6°, which was identified as (trans-III). The ninety-fourth fraction was a solid, m. 125-6°, which was identified as (trans-III). The ninety-fifth fraction was a solid, m. 125-6°, which was identified as (trans-III). The ninety-sixth fraction was a solid, m. 125-6°, which was identified as (trans-III). The ninety-seventh fraction was a solid, m. 125-6°, which was identified as (trans-III). The ninety-eighth fraction was a solid, m. 125-6°, which was identified as (trans-III). The ninety-ninth fraction was a solid, m. 125-6°, which was identified as (trans-III). The hundredth fraction was a solid, m. 125-6°, which was identified as (trans-III).

1. *trans-9-methyl-2-vinyl-6-oxo-Δ^{1,2}-octal-4-ene* (m. 140-5°).
 2. *trans-9-methyl-2-vinyl-6-oxo-Δ^{1,2}-octal-4-ene* (m. 140-5°). Both isomers were
 purified by boiling in EtOAc or EtOAc-dioxane. Is with
 Li in liquid NH₃ as above, followed by treatment with Li in
 MeOH until the soln. became colorless yielded the *trans*-vinyl
 analog of IV, m. 137-7.5°, which hydrogenated over Pd in
 EtOH-dioxane to IV. *cis*-III treated with Li-liquid NH₃
 in Et₂O, followed by treatment with MeOH gave VIII, m.
 118-19°. V treated similarly with Li-NH₃, then with EtOH,
 followed by more Li gave the *cis* epimer of VIII, m. 231-11°. VII
 heated with KHSO₄ and a trace of pyrogallol to 140-5°
in vacuo gave *trans*-9-methyl-2-vinyl-6-oxo-Δ^{1,2}-octal-4-ene
 (thalene, m. 46-7°; *semicarbazone*, m. 200.5-1.5° (de-
 color.). Thus the condensation of C₁₁ with the carbonyl
 group occurs in a sterically specific manner. II and VII
 failed to show androgenic activity at dose up to 800 γ.
 G. M. Kotolapoff

GURVICH, I. A.

✓ Synthesis of steroid compounds and substances related to them. XXX. Stereochemistry of acetylene synthesis with bicyclic ketones. Hydration of bicyclic acetylenic alcohols. I. N. Nazarov and I. A. Gurvich. J. Org. Chem. U.S.S.R. 25, 1617-82 (1955) (Engl. translation). — See C.A.B. 50, 5602 B M R

4.
M. A. YOUTZ
2 copies

NAZAROV, I.N.; GURVICH, I.A.

Synthesis of steroid compounds and of substances related to them..
Part 30. Stereochemistry of the acetylene synthesis with bicyclic
ketones. Hydration of bicyclic acetylenic alcohols. Zhur.ob.khim.
25 no.9:1723-1730 S '55. (MIRA 9:2)

1.Institut organicheskoy khimii Akademii nauk SSSR.
(Alcohols) (Steroids) (Hydration)

GURVICH, T.A.

1992

...of steroid compounds and substances related to
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NAZAROV, I.N.; ZAV'YALOV, S.I.; BURMISTROVA, M.S.; GURVICH, I.A.;
SHMONINA, L.I.

Synthesis of steroid compounds and related substances. Part 34.
9-methyl-1,6-diketo- Δ^5 -octahdronaphthalene. Zhur.ob.khim. 26
no.2:441-444 F '56. (MLRA 9:8)

1. Institut organicheskoy khimii Akademii nauk SSSR.
(Naphthalene)

AUTHORS: Nazarov, I. N., Gurvich, I. A. 62-58-3-24/30

TITLE: The Synthesis of 9-Methyl-Oxy- Δ^5 -6-Octalon (Sintez 9-metil-1-oksi- Δ^5 -6-oktalona)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 3, pp. 371-372 (USSR)

ABSTRACT: A convenient method for the synthesis of Δ^5 -1,6-diketo-octalin was already worked out in the laboratory of the authors. The keto alcohol corresponding to it also represents one of the important intermediate products of the synthesis of triterpinoids and polycyclic compounds. It was possible to synthesize diastereic isomers of keto alcohol by means of the microbiological reduction of diketooctalin. In the present report a new preparative method for the synthesis of keto-alcohol by means of the reduction of diketooctalin with sodiumborohydride was described. It turned out that in the reduction of Δ^5 -1,6-diketo-octalin the keto alcohol can be produced in a yield of 50 %. As expected mainly cis-9-methyl-dekalin derivatives are formed in the catalytic hydrogenation of keto alcohol and diol which proved their oxidation in

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The Synthesis of 9-Methyl-Oxy- Δ^5 -6-Octalon

62-58-3-24/30

cis-diketodekalin. In the reduction of keto alcohol by lithium in liquid ammonia corresponding trans-9-methyldekalin derivatives are produced. There are 1 figure and 6 references, 2 of which are Slavic.

ASSOCIATION: Institut organicheskoy khimii im. N.D.Zelinskogo Akademii nauk SSSR (Institute for Organic Chemistry imeni N.D.Zelinskiy, AS USSR)

SUBMITTED: October 26, 1957

Card 2/2

SOV/62-59-2-17/40

5(3)

AUTHORS:

Nazarov, I. N., Gurvich, I. A.

TITLE:

Synthesis of Steroid Compounds and Related Substances (Sintez steroidnykh soyedineniy i rodstvennykh im veshchestv). Communication 43. Total Synthesis of d,1-18-Nor-D-homo- $\Delta^{9(11)}$ -androstene-3,17a-diol (Soobshcheniye 43. Polnyy sintez d,1-18-nor-D-gomo- $\Delta^{9(11)}$ -androsten-3,17a-diola)

PERIODICAL:

Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1959, Nr 2, pp 293-303 (USSR)

ABSTRACT:

In the present paper the diacetate $\Delta^{9(11)}$ -nor-D-homoandrostene-3,17a-diol (VIII) which must have a steric structure corresponding with the natural hormones, was synthesized by means of diene condensation. The synthesis was carried out on the basis of the trans-1-vinyl-6-keto-9-methyl- Δ^1 -octaline (I), previously obtained (Refs 8,9). By the condensation of dienone (I) with quinone at lower temperature a mixture of adducts (II) and (IIa) in a ratio of 3 : 1 was obtained as a consequence of the endo-addition. The entire yield amounted to ~60%. The two ad-

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SOV/62-59-2-17/40

Synthesis of Steroid Compounds and Related Substances. Communication 43.

Total Synthesis of d,l-18-Nor-D-homo- $\Delta^{9(11)}$ -androstene-3,17 α -diol

ducts can be easily reduced by means of zinc in acetic acid to the triketones (III) and (IIIa) with a saturated D-ring. The isomerization of these triketones proceeds smoothly on aluminum alkali oxide. Only one triketone (IV) and (IVa) each with a trans-combination of the A-B- and C-D-rings, the most stable trans-anti-trans-structure must correspond with, is formed. On the reduction of (IV) by means of skeleton nickel in alcohol or platinum in acetic acid the ketodiol (V) is formed in a yield of $\sim 30\%$. This is readily acetylated and forms the corresponding diacetate (VI). In addition to (V) apparently some mixtures of isomeric triols are formed. The results of the hydrogenolysis of thioketal (VII) which was obtained from the reaction of ketodioldiacetate (VI) with thioglycol, the diacetate (VIII) ($\sim 75\%$) was obtained by means of skeleton nickel in alcohol. On hydrogenation of (II) with platinum oxide catalyst in alcohol the diketo alcohol (IX) was separated. On total reduction of (III) by means of NaBH_4 or LiAlH_4 the triol (X), and on the reduction of (IIIa) with LiAlH_4 (Xa) were obtained.

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Synthesis of Steroid Compounds and Related Substances. Communication 43. SOV/62-59-2-17/40
 Total Synthesis of d,l-18-Nor-D-homo⁹⁽¹¹⁾-androstene-3,17a-diol

On acetylation of these triols corresponding diacetates (XI) and (XIa) were obtained. Yield 60 and 40%. From (X) also the triacetate (XII) was obtained. On the oxidation of (XI) with chromic acid anhydride in acetic acid the diketone (XIII) was separated. The trans-trans-triketone (IV) is difficult to reduce in the mixture of ether and dioxane, apparently owing to bad solubility of LiAlH_4 . The triol (XIVa) was there obtained in the form of triacetate (XVa). On the reduction of (IV) with lithium in liquid ammonia the isomeric triol (XIV) (~30%), also in the form of triacetate (XVa) resulted. On the reduction of (IV) with excess NaBH_4 an alcoholic mixture was obtained which yielded after the acetylation the triacetates (XIV) and (XIVa). Preliminary experiments with (XV), (VIII), and (VI) on chickens showed that these compounds possess an androgenic activity. There are 1 figure and 10 references, 4 of which are Soviet.

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SOV/62-59-2-17/40

Synthesis of Steroid Compounds and Related Substances. Communication 43.

Total Synthesis of d,l-18-Nor-D-homo- $\Delta^{9(11)}$ -androstene-3,17a-diol

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii
nauk SSSR (Institute of Organic Chemistry imeni N. D.
Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: May 31, 1957

Card 4/4

AUTHORS: Nazarov, I. N. (Deceased), Gurvich, I. A. SOV/79-29-2-24/71

TITLE: Synthesis of the Steroid Compounds and Their Related Products
(Sintez steroidnykh soyedineniy i rodstvennykh im veshchestv).
44. Reduction of 9-Methyl-1-ethynyl-1-oxy-6-keto- Δ^5 -octaline and
Its Derivatives With Sodium Boron Hydride (44. Vosstanovleniye
9-metil-1-etinil-1-oksi-6-keto- Δ^5 -oktalina i yego proizvodnykh
borgidridom natriya)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 467-472 (USSR)

ABSTRACT: Of late the reduction of keto steroids to the corresponding al-
cohols was very closely investigated, especially with metyl
hydrides of the type MeAlH_4 , MeBH_4 , MeH(BOR)_3 , the most con-
venient being NaBH_4 , with which a selective and a spatially
selective reduction of ketones can be carried out (Ref 1). The
work under review was undertaken with a view to attain the in-
termediate products in the steroid synthesis. For this purpose
keto alcohols (I-VI) were reduced in diluted alcohol solutions
and cooling with NaBH_4 . The corresponding alcohols were obtained

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SOV/79-29-2-24/71

Synthesis of the Steroid Compounds and Their Related Products. 44. Reduction of 9-Methyl-1-ethynyl-1-oxy-6-keto- Δ^5 -octaline and Its Derivatives With Sodium Boron Hydride

with good yields in crystalline state (VII-XII), all in the same spatial position of the hydroxyl groups on C₆. This could be proved by hydrogenation into one and the same diol (X), which had earlier been synthesized by hydrogenation of alcohol (I) and (XI). (XI) formed by reduction of keto alcohol II, which, as is known, leads to compounds with "equatorial orientation" of the alcohol group. The same applies to the reduction of ketones with spatially difficult arrangement. Thus, in synthesized alcohols (VII-XII) the secondary alcohol groups must occupy an equatorial position. The acetylation of diols (VII-XII) with acetic acid anhydride in pyridine occurs selectively, under the formation of 6-monoacetate (XIII-XVIII). The tertiary hydroxyl on the carbon is not acetylated. On reducing acetylene keto alcohol (XIX) with NaBH₄ under above conditions, two isomeric diols (XX) and (XXI) are formed, which is the cause of further transformations. There are 8 references, 3 of which are Soviet.

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SOV/79-29-2-24/71

Synthesis of the Steroid Compounds and Their Related Products. 44. Reduction of 9-Methyl-1-ethynyl-1-oxy-6-keto- Δ^5 -octaline and Its Derivatives With Sodium Boron Hydride

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry of the Academy of Sciences, USSR)

SUBMITTED: November 28, 1957

Card 3/3

5 (3)

SOV/79-29-3-5/61

AUTHORS: Nazarov, I. N. (Deceased), Gurvich, I. A., Aleksandrova, G. V.
Kuznetsov, N. V., Vasil'yev, A. F.

TITLE: Stereochemistry of the Synthesis of Acetylene With Bicyclic Ketones (Stereokhimiya atsetilenovogo sinteza c bitsiklicheskimi ketonami). Synthesis of Cis-1-ethynyl-1-oxy-6-decalone. Absorption Spectra of the Series of Tert. α -decalols (Sintez tsis-1-etinil-1-oksi-6-dekalona. Spektry pogloshcheniya ryada tretichnykh α -dekalolov)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 3, pp 753-761 (USSR)

ABSTRACT: Proceeding from the experience acquired in their earlier experiments (Refs 1-3) the authors interpreted the configuration of the substituents at the C₁ in the alcohol (I) and in the product of its hydration (II) on the basis of the reactivity of these substituents. In the work under review the condensation of cis-methoxyoctalone (III) with sodium acetylenide was carried out in liquid ammonia and after saponification of the reaction product acetylene alcohol (IV) was obtained as chief product, besides small quantities of isomeric acetylene alcohols (IVa and IVb). Compound (IV) in methanol in the presence of sulphuric mercury smoothly hydrates into decalone(V),

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SOV/79-29-3-5/61

Stereochemistry of the Synthesis of Acetylene With Bicyclic Ketones.
Synthesis of Cis-1-ethynyl-1-oxy-6-decalone. Absorption Spectra of the
Series of Tert. α -decalols

which easily forms bis-2,4-dinitrophenyl hydrazone. On the basis of the latter two easy reactions it must be assumed that both compounds have the same spatial arrangement of the side chain and of hydroxyl at the C₁, like cis-ethynyl decalol (I) and the corresponding acetyl derivative (II). In hydrogenation, compound (IV) yields ethyl decalone (VI) in crystals, which by reduction yields diol (VII) (Scheme 2). In the reaction with (III) and subsequent saponification, ethyl magnesium bromide yields an oil, which by reduction forms ethyl diol (VII). In the reaction of ethyl magnesium iodide with (VIII) an oil is formed, which in reduction forms the isomeric diol (X). (X) yields in its oxidation the isomeric ketol (IX) of compound (VI). Thus keto alcohol (VI) is a cis-decalin derivative, so that also acetylene alcohol (IV) and its derivatives belong to this series. Keto alcohol (IX) and diol (X) are thus derivatives of transdecalin. Several substituted cis- and trans- α -decalols were obtained. The absorption spectra of several tertiary α -decalols are shown. It may be seen from

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50V/79-29-3-5/61

Stereochemistry of the Synthesis of Acetylene With Bicyclic Ketones.
Synthesis of Cis-1-ethynyl-1-oxy-6-decalone. Absorption Spectra of the
Series of Tert. α -decalols

them that cis-ethynyl- α -decalols synthesized in the same way
possess the same chemical properties and the same absorption
spectra. There are 3 figures and 12 references, 6 of which
are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR
(Institute of Organic Chemistry of the Academy of Sciences,
USSR)

SUBMITTED: January 4, 1958

Card 3/3

5 (3,4)

AUTHORS:

SOV/79-29-3-6/61
Nazarov, I. N. (Deceased), Vasil'yev, A. F., Gurvich, I. A.

TITLE:

Infrared Absorption Spectra of the Substituted Trans-1,6-decalindriols and Δ^5 -1,6-Octalindriols (Infrakrasnyye spektry pogloshcheniya zameshchennykh trans-1,6-dekalindiolov i Δ^5 -1,6-oktalindiolov)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 3, pp 761-767 (USSR)

ABSTRACT:

The present paper deals with the absorption spectra of 1-substituted trans-9-methyl-1,6-decalindriols (I, II, III) (Fig 1 (1-3)), 9-methyl- Δ^5 -1,6-octalindriols (X, XI, XII) (Fig 2 (10-12)) and their 6-monoacetates (IV, V, VI, XIII, XIV, XV) (Fig 1 (4-6) and Fig 2 (13-15)), as well as the absorption spectra of the initial keto alcohols (VII-IX, XVI-XVIII) (Fig 1 (7-9) and Fig 2 (16-18)) which do not contain any secondary alcohol group recorded in the spectrum range 900-1500 cm^{-1} . All these compounds (I-XVIII) being tertiary α -decalols have the same configuration as the substituents at the C_1 , since they all originate from the acetylene alcohol (XVIII). The diols (I-III, X-XII) contain a secondary alcohol group having an equal spatial arrangement,

Card 1/3

SOV/79-29-3-6/61

Infrared Absorption Spectra of the Substituted Trans-1,6-decalindiols and Δ^5 -1,6-Octalindiols

as they are all transformed into one and the same diol (I) in the hydrogenation of the unsaturated alcohols (II, III, X-XII). Figure 1 shows the spectra of trans-9-methyl-decalin derivatives. In comparing the spectra a marked difference may be observed between those of the ketones, alcohols and acetates. Figure 2 shows the absorption spectra of 9-methyl- Δ^5 -octalin derivatives. These spectra give a general picture of those illustrated in figure 1. Thus, the absorption spectra of several substituted 1,6-decalindiols, Δ^5 -1,6-octalindiols, of their acetates and corresponding 6-keto alcohols in the spectrum range 900-1500 cm^{-1} were shown and described. By the aid of the absorption spectra of 1-ethyl-, 1-vinyl-, 1-ethynyl-substituted 9-methyl-1,6-decalindiols, of 9-methyl- Δ^5 -1,6-octalindiol and its derivatives, as well as by the aid of the spectra of their acetates it was shown that these compounds contain a secondary alcohol group having an equatorial orientation. There are 2 figures, 1 table, and 6 references, 4 of which are Soviet.

Card 2/3

S07/79-29-3-6/61

Infrared Absorption Spectra of the Substituted Trans-1,6-decalindiols and
 Δ^5 -1,6-Octalindiols

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR
(Institute of Organic Chemistry of the Academy of Sciences,
USSR)

SUBMITTED: January 4, 1958

Card 3/3

KUCHEROV, V.F.; GURVICH, I.A.

Stereochemistry of cyclic compounds. Part 37: Synthesis of 5,9-dimethyl- Δ^5 1,6-diketoöctalin and configuration of its reduction products. Zhur. ob. khim. 31 no.3:796-804 Mr '61. (MIRA 14:3)

1. Institut organicheskoy khimii imeni N. D. Zelinskogo AN SSSR.

(Naphthalenedione)

GURVICH, I.A.; KUCHEROV, V.F.; ILYUKHINA, T. V.

Stereochemistry of cyclic compounds. Part 38: Stereochemistry of reduction of 5,9-dimethyl-1-ethynyl-1-hydroxy- Δ^5 -6-octalone and its derivatives. Zhur. ob. khim. 31 no.3:804-810 Mr'61. (MIRA 14:3)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.
(Naphthalenone)

NAZAROV, Ivan Nikolayevich [1906-1957]; TORGOV, I.V., doktor khim.nauk, otv.red.; ANDREYEV, V.M., kand.khim.nauk, red.; GURVICH, I.A., kand.khim.nauk, red.; SHVETSOV, M.I., kand.khim.nauk, red.; YANOVSKAYA, L.A., kand.khim.nauk, red.; RUDEKNO, V.A., red.izd-va; POLYAKOVA, T.V., tekhn.red.

[Selected works] Izbrannye trudy. Moskva, Izd-vo Akad.nauk SSSR, 1961. 690 p. (MIRA 14:4)

(Chemistry, Organic)

KUCHEROV, V.F.; GURVICH, I.A.

Use of trans-1-vinyl-6-acetoxy- and trans-1-vinyl-6-ethylenedioxy-9-methyl- Δ^1 -octalines in diene synthesis reactions. Izv. AN SSSR, Otd. khim. nauk no. 6: 1152-1153 Je '61. (MIRA 14:6)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Naphthalene) (Unsaturated compounds)

KUCHEROV, V.F.; MIL'SHTEYN, I.M.; CURVICH, I.A.

Stereochemistry of cyclic compounds. Part 40: Stereochemistry of diene condensation of trans-1-vinyl-6-keto-9-methyl- Δ^8 -octalin with maleic anhydride, and some transformations of formed isomers and their ketals. Zhur.ob.khim. 31 no.9:2832-2839 S '61. (MIRA 14:9)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
(Cyclic compounds) (Stereochemistry)

GURVICH, I.A.; MIL'SHTEYN, I.M.; KUCHEROV, V.F.

Stereochemistry of cyclic compounds. Part 43: Stereochemistry of the Diels-Alder condensation of trans-1-vinyl-6-acetoxy-9-methyl-10-octalin with maleic anhydride, and some transformations of dicarboxylic acids of the phenanthrene series. Zhur.ob.khim. 31 no.12:3939-3945 D '61. (MIRA 15:2)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
(Naphthalene)
(Maleic anhydride)
(Phenanthrenedicarboxylic acid)
(Stereochemistry)

KUCHEROV, V. F.; GURVICH, I. A.

Trans-1-vinyl-6-oxo-9-methyl- Δ^1 -octalin in the reactions of diene synthesis and some conversions of d,1-18-nor-14-iso-oxy- $\Delta^9(n)$ -androstene-15,17-dione acetate. Izv. AN SSSR Otd.khim.nauk no.2:363-365 F '62. (MIRA 15:2)

1. Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR.
(Naphthalene) (Androstenedione)

KUCHEROV, V.F.; MIL'SHTEYN, I.M.; GURVICH, I.A.

Stereochemistry of cyclic compounds. Part 46; Configuration
of adducts of trans-1-vinyl-6-keto-9-methyl- Δ^1 -octalin with
maleic anhydride. Zhur.ob.khim. 32 no.3:765-773 Mr '62.
(MIRA 15:3)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
(Naphthalene) (Maleic anhydride) (Stereochemistry)

GURVICH, I.A.; KUCHEROV, V.F.

Stereochemistry of cyclic compounds. Report No.59: Action of hypobromous acid on 13-methyl-7-keto-~~4~~^{6,2}-dodecahydrophenanthrene-cis-1,2-dicarboxylic acid and its diester. Izv. AN SSSR Ser. khim. no.7:1241-1245 J1 '64. (MIRA 17:8)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.

KUCHEROV, V.F.; GURVICH, I.A.; RUDENKO, B.A.

Stereochemistry of cyclic compounds. Report No.60: Synthesis
of dicarboxylic acids of the decahydrofluorene series. Izv.
AN SSSR. Ser. khim. no.8:1456-1463 Ag '64. (MIRA 17:9)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

GURVICH, I.A.; KUCHEROV, V.F.

Cis-1-vinyl-8-methyl- Δ^1 -hexahydroinden-5-one in the reactions
of diene synthesis. Izv. AN SSSR. Ser. khim. no.8:1507-1509
Ag '64. (MIRA 17:9)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

KUCHEROV, V.F.; GURVICH, I.A.; MIL'SHTEYN, I.M.

Stereochemistry of the oxidation of geometrical isomers of
13-methyl-7-acetoxy- $\Delta^4(12)$ -dodecahydrophenanthrene-
1,2-dicarboxylic acid and their derivatives. Dokl. AN SSSR
158 no.1:159-162 S-O '64 (MIRA 17:8)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.

KUCHEROV, V.F.; GURVICH, I.A.; SIMOLIN, A.V.; MIL'SHTEYN, I.M.

Chromatographic analysis and preparative separation of gibberellins.
Dokl. AN SSSR 163 no.3:765-767 J1 '65. (MIRA 18:7)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR. Submitted October 7, 1964.

GUREVICH, I. I.; BILLETSEV, I. M.; POLOVIN, V. F.

Some transformations of gibberellic acid derivatives. Izv. AN SSSR.
Ser.khim. no.1:184-186 '66. (MIRA 1966)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
Submitted June 9, 1965.

GURVICH, I.B.

USSR/Miscellaneous

Card 1/1 : Pub. 12 - 9/15

Authors : Lukin, N. P.; Slepova, E. Z.; Gurchich, I. B.; Pshenishnov, A. V.; and
Chumakova, N. M.

Title : Improvement in the finishing of engine parts

Periodical : Avt. trakt. prom. 2, 28-29, Feb 1954

Abstract : The importance of qualitative preparation of friction surfaces of auto-engine parts, is explained. The methods and means employed by the Molotov Automobile Plant in Gorkiy for improving the quality and service life of parts for the engines Gaz-51, Gaz-63, M-20 and ZIM, are described.

Institution : The V. M. Molotov Automobile Plant, Gorkiy

Submitted :

GURVICH, I.B., kandidat tekhnicheskikh nauk.

Improving the finishing of working surfaces and extending the
life of an engine valve and its bushing. Avt.trakt.prom. no.
12:21-23 D '54. (MLRA 8:2)

1. Gor'kovskiy avtozavod im.Molotova.
(Gas and oil engines--Valves)

ZURFUEHRUNG, D. I., ABGABE, M. I.; PASAR, RODE, A. R. E. T. C.

was required as during the summer runs. If such continuous runs are done in alk. medium in the presence of I_2 , about 50% of the total iodine in the H_2O can be recovered as I_2 , or 60-65% of the amt. present as I_2 already, and one must use in this case 10,000-17,000 cu. m. air for each kg. I_2 recovered. If economically feasible, a more intense sprinkling with application of more air will benefit the yield in I_2 . The alk. method is recommended for economical reasons; e.g. the H_2O is normally alk. and the acid, like H_2SO_4 , must be transported from quite a distance for the acid process.

Werner Jacobson

EM

7
1

GURVICH, I.^B, kandidat tekhnicheskikh nauk.

Measures for raising the quality of GAZ engines. Avt.transp. 33
no.11:21-23 N '55. (MLRA 9:3)

1. Gor'kovskiy avtozavod imeni Molotova.
(Automobiles--Engines)

GURVICH, I. B.
USSR/Engineering - Auto engines

Card 1/1 Pub. 128 - 11/31

Authors : Gurvich, I. B., Cand. Tech. Sc., and Chernomashentsev, A. I., Engineer

Title : ~~Effect of running-in conditions on the subsequent service life of auto engines~~
Effect of running-in conditions on the subsequent service life of auto engines

Periodical : Vest. mash. 35/5, 31-33, May 1955

Abstract : The most objective criteria in evaluating the quality of auto engine running-in processes are outlined. It is stated that the selection of optimum conditions for factory running-in of auto engines should be based on the analysis of possibilities for the obtainment of the desired macro- and micro-geometry of friction surfaces during the manufacture of engine parts. It is shown that the quality of surface burnishing depends not only upon the quality of lubricants used but also upon the rpm. Two USSR references (1952-1955). Table; graphs.

Institution :

Submitted :

^B
GURVICH, I. K., kandidat ~~okh~~nicheskikh nauk.

Preventing premature wear in cylinders of the ZIM engine. Avt. 1
trakt. prom. no. 11:11-15 N 1956. (MLRA 10:1)

1. Gor'kovskiy avtozavod imeni Molotova.
(Cylinders--Automobiles--Engines)

GURVICH, I.B.

GURVICH, I.B. kandidat tekhnicheskikh nauk; BELYAKOVA, N.B.; KRYMOV, S.I.

Purpose of surface smoothness of parts used in automobile engines.
Vest.mash. 37 no.9:33-40 S '57. (MLRA 10:9)
(Surfaces (Technology)) (Automobiles--Engines)

GURVICH, I.B.; IVANOV, N.M.; UMNOV, I.A.; SHNEYDER, G.K.

Raising technical and economic indices for bottom-valve carburetor engines. Avt. prom. no.1:9-14 Ja '58. (MIRA 11:2)

1. Gor'kovskiy avtozavod.
(Automobiles--Engines)

GURVICH, I.B.

113-58-6-5/16

AUTHOR: Gurvich, I.B., Candidate of Technical Sciences

TITLE: On Oil Consumption and the Leakage of Gases in Automobile Engines (O raskhode masla i propuske gazov v avtomobil'nykh dvigatelyakh)

PERIODICAL: Avtomobil'naya promyshlennost', 1958, Nr 6, p 10-13 (USSR)

ABSTRACT: The author made numerous experiments on various automobile engines to determine the oil consumption and the leakage of gas under different lubricating and ventilating conditions. Graphs show the results of these trials and the author arrived at the following conclusions: basic initial parameters determining the oil consumption of the engine are the degree of running-in of the cylinder-piston unit, the gaps in the guiding bushing-valve unit, radial gaps in the cylinder-piston unit, and the width of the internal conical edge of the compression piston rings. Oil consumption also depends on the ventilation system of the crank case. The evaluation of the technical condition of the engine must be judged by the oil consumption, taking into consideration indicators of the leakage of gas through the piston rings. The author also indicates the limits of oil consumption for some Soviet engines.

Card 1/2

113-5B-6-5/16

On Oil Consumption and the Leakage of Gases in Automobile Engines

There are 5 graphs, 2 tables and 1 Soviet reference.

ASSOCIATION: Gor'kovskiy avtozavod (The Gor'kiy Automobile Plant)

Card 2/2 1. Automobile engines--Gas leakage 2. Automobile engines
 --Oil consumption

SOV-113-58-2-6/15

AUTHORS: Gurvich, I.B., Candidate of Technical Sciences, Vasil'yev, O.S., Sukhanov, V.A.

TITLE: The Limitation of Loads at the Running-in of the Engine in the Automobile (Ogranicheniye nagruzok pri obkatke dvigatelya na avtomobile)

PERIODICAL: Avtomobil'naya promyshlennost', 1958, Nr 9, pp 15-16 (USSR)

ABSTRACT: In running-in the engine, to accomplish the mechanical finishing of the engine surfaces, a disk used to be inserted between the carburetor and the feed pipe in light cars. This was not necessary for trucks, since there are enough means to direct the number of revolutions. The inserted disk behind the carburetor had the disadvantage that the atomization of the fuel in the engine became worse and caused settling of the gasoline on the walls of the supply pipe system finally resulting in scale formation in the compression chambers and on the piston bottoms. A suggestion is made to replace the inserted disk by a baffle plate (Figure 2) for fixation of the deflection angle. This eliminates the necessity of separating the carburetor from the feed pipe after the 1,000-km-running-in period, to remove the disk. In the

Card 1/2

SOV-113-58-9-6/19

The Limitation of Loads at the Running-in of the Engine in the Automobile

case of the baffle plate only a screw is unscrewed and the plate easily removed. Five M-20 and 3 ZIm engines were given test runs to try both principles (Table 2). They resulted in favor of the baffle plate, since there are none of the disadvantages caused by the disk and an additional economy of 1 to 1.25 liters of gasoline per 100 km running-in consumption.

There are 4 graphs, 1 diagram and 2 tables.

ASSOCIATION: Gor'kovskiy avtozavod (The Gor'kiy Motor Vehicle Plant).

1. Automobiles--Performance 2. Combustion engines--Test methods

Card 2/2

12(2)

SOV/113-59-4-12/19

AUTHOR: Gurvich, I.B., Candidate of Technical Sciences

TITLE: The Initial Parameters of Engine Wear

PERIODICAL: Avtomobil'naya promyshlennost', 1959, Nr 4, pp 33-36 (USSR)

ABSTRACT: Presently, studies are being made at the Gor'kovskiy avto-zavod (Gor'kiy Automobile Plant) concerning the basic wear parameters of different automobile engine models. These basic wear parameters are: constructional parameters, state of friction surfaces, finishing of friction surfaces and operating conditions of the engine. Each of these parameters involves a great number of factors. By studying these factors appropriate measures may be taken for increasing the wear resistance of friction surfaces, or reducing the labor consumption of their manufacture. For example, the application of expensive austenitic steel for cylinder sleeves of M-20, GAS-51, ZIM engines and their modifications, is economically justified. For engines with easily replaceable sleeves, it is more suitable to replace the sleeves together with the piston rings. For the GAZ-12 engine a chrome-plat-

Card 1/2

SOV/113-59-4-12/19

The Initial Parameters of Engine Wear

ing of the piston rings is required, while there is no reason to do this for pistons rings of M-20, GAZ-51 and GAZ-63 engines which work with lower piston velocities. The author then discusses constructional parameters, the condition of friction surfaces, conditions for matching parts, surface finishing and operating conditions of the engine. He concludes that a systematic compilation of information concerning the wear resistance of automobile engines will require in some cases experimental investigations, or, vice versa, the theoretical foundations will be necessary for experimental experience. For a further increase of the length of service of automobile engines, additional studies must be made on the initial wear parameters. There are 3 graphs, 2 tables and 7 Soviet references.

ASSOCIATION: Gor'kovskiy avtozavod (Gor'kiy Automobile Plant)

Card 2/2

12(2

COV/113-59-6-10/21

AUTHOR: Yegorova, A.P., Umnov, I.A., Meshcheryakov,
I.G., Gurvich, I.B., Candidate of Technical
Sciences

TITLE: The Temperature Field of Crankshaft Bearings

PERIODICAL: Avtomobil'naya promyshlennost', 1959, Nr 6, pp 29-31
(USSR)

ABSTRACT: The article describes tests carried out at the
Gor'kiy Automobile Plant to establish the influence
of various factors on the temperature field of the
crankshaft bearings of M-20 and M-21A four-cylinder
engines. Reference is made to similar tests carried
out by the MVTU imeni Bauman on the crankshaft
bearings of a GAZ-51 in 1948. The influence of the
rpm, engine load and viscosity of the oil on the
bearings is shown in Figure 2. Speed is seen to be
the biggest factor, as every 500 rpm increases the
temperature of the bearings from 12° at low rpm to
22° at maximum rpm. The addition of 2% colloidal

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SCV/113-59-6-10/21

The Temperature Field of Crankshaft Bearings

graphite to the SU machine oil used reduced the temperature by 6-12% in the M-21A and not more than 6% in the M-20 (Figure 3). The effect of the oil pressure (Figure 4) is given; reduction of the oil pressure from 3 to 2 kg/cm² increased the temperature of the bearings by 3-7% in the M-21-A but had no effect in the M-20. It is shown in Figure 5 how opening the throttle increases the temperature even though the rpm are constant. The crankshafts of both engines were then revolved hot and cold to find the effect of the combustion on the bearing temperature. No change was observed in the M-20 but there was an increase of 1-3% in the M-21-A. The deterioration in the hardness of tellurous babbitts due to increased temperature is shown; the figures are 18.1 H_B at 20°C and 4.92 at 150°C. To reduce the temperature of the bearings

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12(2)

SOV/113-59-6-10/21

The Temperature Field of Crankshaft Bearings

the following measures are recommended: use of low-viscosity oil during running-in and normal use; addition of colloidal graphite, etc.; increase of oil pressure. There are 4 diagrams, 1 graph and 1 table.

ASSOCIATION: Gor'kovskiy avtozavod (Gor'kiy Automobile Plant)

Card 3/3

12(2)

SOV/113-59-7-4/19

AUTHOR: Gurvich, I.B., Candidate of Technical Sciences

TITLE: Simplified Methods for Estimating the Breaking-In
of Engines

PERIODICAL: Avtomobil'naya promyshlennost', 1959, Nr 7, pp 12-14
(USSR)

ABSTRACT: The determination of the initial wear during the
breaking-in of automobile engines is one of the most
complicated and labor consuming tasks. The existing
methods have certain disadvantages, especially when
they are to be applied on large series of engines.
The determination of wear by micrometers produces
little information during the initial phases of the
breaking-in period. Inspection by profilometers is
difficult and is only used in combination with other,
simpler methods. The application of radioactive iso-
topes necessitates the application of complicated

Card 1/4

SOV/113-59-7-4/19

Simplified Methods for Estimating the Breaking-In of Engines

equipment and special safety measures. Its application on large engine series is connected with great difficulties. Plotting the so called "wear lines" on the results of oil analysis will produce objective results only when used on a large number of engines and implies errors during the analysis of oil samples. Estimating the progress of the breaking-in period by the reduction of mechanical losses is less labor consuming, but is also less accurate. However, when observing certain conditions, this method will reveal changes occurring in an engine during the breaking-in period with sufficient accuracy. In order to avoid errors, it is advisable to select the engines to be tested according to averaged optimum values of surface finishes, clearances, etc, or to increase the number of engines to be tested. Similar conditions must be observed with the method developed by the engine

Card 2/4

SOV/113-59-7-4/19

Simplified Methods for Estimating the Breaking-In of Engines

laboratory of the Gor'kiy Automobile Plant. This method does not require the application of dynamometers, since it is based on observing the rpm number during idling runs. This method was developed by investigating 30 engines of different GAZ models. All engines were tested with the same carburetor. The carburetor and ignition setting were equal for all engines. The author describes the development of this method in more detail. Since a large number of factors influence the rpm number at idling speed, detailed investigations had to be conducted for establishing the possible errors. Automobile engines of types M-20 and M-21 were used for the preliminary experiments. Figures 1, 2 and 3 contain graphs of the rpm number change at idling speed during the breaking-in period. Finally, the author presents the results of

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SOV/113-59-7-4/19

Simplified Methods for Estimating the Breaking-In of Engines

tests of "M-21" engines for the "Volga" automobiles.
There are 5 graphs and 1 table.

ASSOCIATION: Gor'kovskiy avtozavod (Gor'kiy Automobile Plant)

Card 4/4

GURVICH, Il'ya Borisovich, kand. tekhn.nauk; KUGEL', R.V., kand.tekhn.
nauk, retsenzent; SMIRNOVA, G.V., tekhn. red.

[Wear of automobile engines] Iznos avtomobil'nykh dvigatelei; iz
opyta Gor'kovskogo avtozavoda. Moskva, Mashgiz, 1961. 93 p.
(MIRA 14:11)

(Automobiles--Engines)

GURVICH, I.B., kand. tekhn. nauk; BOBKOV, Yu.K.; SEREBRYAKOV, K.B.

Improving the stability indices of automobile engines. Avt.prom.
no.9:6-8 S '61. (MIRA 14:9)

1. Gor'kovskiy avtozavod.
(Automobiles--Engines)

GURVICH, I.B., kand.tekhn.nauk

Effect of the surface finish of automobile parts on their wear. Avt.
prom. 27 no. 4:16-17 Ap '61. (MIRA 14:4)

1. Gor'kovskiy avtozavod.
(Automobiles—Engines—Cylinders)

GURVICH, I.B., kand. tekhn. nauk; YEGOROVA, A.P.; BUYNOV, A.F.

Increasing the heat resistance of automobile engine parts.
Avt. prom. 28 no.7:39-40 J1 '62. (MIRA 16:6)

1. Gor'kovskiy avtomosvod.
(Automobiles—Engines)
(Heat resistant alloys)

GURVICH, I.B., kand.tekhn.nauk; SUKHANOV, V.A.

Oil loss and gas escape in the GAZ caged-valve engines. Avt.prom.
28 no.12:27-28 D '62. (MIRA 16:1)

1. Gor'kovskiy avtozavod.

(Automobiles--Engines)

GURVICH, I.B., kand.tekhn.nauk

Technological means for increasing the service life of engines.

Avt.prom. 29 no.2:41-43 F '63.

(MIRA 16:2)

1. Gor'kovskiy avtozavod.

(Motor vehicles—Engines)

GURVICH, I.B., kand.tekhn.nauk; MAY, L.A.; BELYAKOVA, N.B.; KRYMOV, S.I.

Macrogeometry and wear of engine parts. Avt.prom. 30 no.2:
38-41 F '64. (MIRA 17:4)

1. Gor'kovskiy avtomobil'nyy zavod i Nauchno-issledovatel'skiy
tekhnologicheskiy institut avtomobil'noy promyshlennosti.

GURVICH, I.K., Izv. vuzov. tekhn. nauk; 1965, No. 11; 1966, No. 1.

Some aspects of the high-speed wear testing of engines. Int.
prom. 31 no. 3:5-6 Ag '65. (CIA 18:8)

1. Ger'kovskiy avtomat i Ger'kovskiy sel'skokhozyaystvennyy
institut.

Gas balance. V. G. Fastovskii and I. G. Gurvich. *Zavodskaya Lab.* 8, 77-83 (1939).—An app. for analyzing gases consists of a gas balance connected to a 3-way stop-cock for evacuating or filling the balance and also to 3 tubes filled with Hg which serve to bring the balance to equil. rapidly and accurately. In analysis the balance is thoroughly evacuated, gas of a known d. such as air, pure N_2 or C_2H_4 , is admitted, the balance is brought to equil. and the pressure is noted on a manometer. The procedure is repeated with the gas under test. The beam of the balance has a permanent magnet while an electromagnet is placed outside the balance can. This device makes it possible to change the zero point of the beam easily when testing gases of widely differing d. The sensitivity of the balance is very high. B. Z. Kamich

GURVICH, I. G.

"Concerning the Determination of the Density of an Argon-Krypton Mixture
on a Gas Balance," Zavod. Lab., 8, No.1, 1939.

The equilibrium liquid-vapor in the binary system oxygen-krypton. V. G. Pastovskii and I. G. Gurvich, *Acta Physicochim. U. R. S. S.* 11, 883 (1957) in German. -- From expl. data on the gas-liquid system ($4\% \text{ Kr}$ contg. up to 50°K at $90-99^\circ \text{K}$, $\log p = A + B/T$) with $A = 0.943$ and 0.393 , $B = -360.52$ and -324.1 for pure O_2 and for a $50.5\% \text{ Kr}-49.5\% \text{ O}_2$ mixt. The $\text{O}_2\text{-Kr}$ system is regular and obeys the equation $\log p^{\text{ex}}/p^{\text{id}} = N_2 \lambda$ (K/TN_2) where $K \sim 30$. These equations and consts. also agree with the data of Stackelberg, *et al.* (*C. A.* 29, 4017). F. H. Rathmann


GURVICH418G3

600

1. GONIKBERG, M. G.; FASTOVSKIY, V. G.; GURVICH, I. G.

2. USSR (600)

"The Solubility of Gases in Liquids at Low Temperatures and High Pressures. I,"
Zhur. Fiz. Khim, 13, No. 11, 1939. Moscow, All-Union Electrotechnical Institute.
Received 9 July 1939.

9.  Report U-1615, 3 Jan. 1939.

design of rectification columns for the production of
 crypton and neon from air. J. G. Gervick, Akron,
 Massachusetts 9, No. 8-9, 11-12(1940).—Calkins,
 the ideal no. of plates for a column where Kr is sept.
 from O coming from a larger rectification column. The
 larger column handles a mixt. of O, N₂ and Kr.
 R. 7. Kamlich

H. Z. Kuntze

430 324 METALLURGICAL LITERATURE CLASSIFICATION

PROCEDURES AND PROPERTIES INDEX									
<div style="position: relative;"> <div style="position: absolute; top: 10px; left: 10px; font-size: 2em;">CA</div> <div style="position: absolute; top: 100px; left: 50px;"> <p>The test of a Peckelbach column on a mixture of benzene and dichloroethane. M. G. Goulberg and I. G. (Journ. <i>J. Chem. Ind.</i> (U. S. S. R.) 10, No. 5, 216 (1941).—Equations are derived for calg. the efficiency of the column, and their accuracy is checked on a lab. column.</p> <p style="text-align: right;">H. M. Lehwiser</p> </div> </div>									
<div style="display: flex; justify-content: space-between;"> ASG-51A METALLURGICAL LITERATURE CLASSIFICATION 8-27-41 </div>									
SIGNATURE					DATE				
INITIALS					DATE				

Gurvich, I. G.

Heat capacity of water-phenol solutions in the critical region. Kh. I. Amekhanov and I. G. Gurvich. Doklady Akad. Nauk S.S.S.R. VI, 221-26 (1953) (English translation issued as U.S. Atomic Energy Comm. NSR-tr-37(1953)).—cf. Khomyakov, et al., Zhur. Fiz. Khim. 25, 1469 (1951).—The heat-capacity measurements of K., et al., on water-phenol solns. through the crit. region were repeated with and without stirring in the calorimeter. With even slight mixing, the heat capacity was observed to remain constant within exptl. error throughout the crit. region; without mixing, the same decreased cooling rate (high apparent heat capacity) was found as was observed by K., et al. Careful temp. measurements in the calorimeter indicated the presence of large temp. gradients when no mixing was allowed. It is suggested that the decreased heat transmission throughout the soln. is probably related to the experimentally observed increase of viscosity of solns. near the crit. point which would result in a decreased intensity of convection. John L. Margrave

GURVICH, I. G.

USSR/Physics of the Earth - Origin and Structure of the Earth, 0-2

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36317

Author: Amirkhanov, Kh. I., Gurvich, I. G., Sardarov, S. S.

Institution: None

Title: Mass-Spectrometric Accelerated Method of Determining the Absolute Age of Geological Formations Using the Radioactive Decay of K^{40} in Ar^{40}

Original

Periodical: Izv. AN SSSR, ser. geol., 1955, No 4, 80-87

Abstract: A method was developed for accelerated determination of the absolute age of rocks by argon-potassium methods. The total time of one determination of the amount of the radiogenic argon is 1-2 hours. The data obtained are in good agreement with the data measured by other methods. The values of the decay constants of potassium were taken from the data by E. K. Gerling. Measurements were made on the age of rocks and minerals in the northern Caucasus. The results of these measurements make it possible to

Card 1/2

USSR/Physics of the Earth - Origin and Structure of the Earth, 0-2

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 1317

Abstract: solve many problems in the geochronology of the northern Caucasus. The measurements have shown that it is possible to determine the age of relatively geological formations 10-15 million years old.

Card 2/2

GURVICH, I.G., IVANOV, V.S.

Electrometric amplifier with 100% feedback. Zav.lab. 21 no.3:
365-366 '55. (MLRA 8:6)

1. Dagestanskiy filial Akademii nauk SSSR.
(Amplifiers, Electron-tube)

GURVICH, L. G.

Mass-spectrometric method for measuring the quantity of
radioargon in geological formation samples for a deter-
mination of their absolute age. G. I. Amirkhanov, L. G.
Gurvich, L. I. Shum, and S. A. Sidorov. *Zh. obshch. khim.*
29, 1233 (1957). Argon can be expelled from minerals by
high-frequency heating to 1800°. After expn. of A from
H₂O, CO₂, Fe, Mg, CO, H₂, etc. the A³⁶:A⁴⁰ ratio was detd.
by the isotopic diln. method. With an Archeozoic musco-
vite sample, the radioactive A content was 0.89 ± 0.16
μm/mg. for a K content of 0.0831 g/g. sample. Tak-
ing for the abs. age of the muscovite sample 1.6×10^9 yrs.
gives for the abs. age of the muscovite sample 1.6 × 10⁹ yrs.
Fritz H. Rathmann

GURVICH, I. G.

USSR/ Chemistry - Physical chemistry

Card 1/1 Pub. 22 - 33/60

Authors : Amirkhanov, Kh. I., Act. Memb. of Azerb. Acad. of Sc.; Gurchich, I. G.;
and Matizen, E. M.

Title : Specific heat of a phenol-water system in the critical zone

Periodical : Dok. AN SSSR ^{104/}100/4. 735-736, Feb 1, 1955

Abstract : The specific heat of the phenol-water system was measured in the critical zone for the purpose of determining the magnitude of the specific heat jump with a greater accuracy than before and to compare the measured value with that obtained by another researcher. An increase in measurement accuracy was attained by continuous control of the temperature difference of the thermostat fluid and the investigated solution which reduced the uncontrollable heat losses. The measurements proved that the specific heat jump in the critical point had a small finite value for the phenol-water system. Two USSR references (1953 and 1954). Graph; drawing.

Institution : Academy of Sciences USSR, The Dagestan Branch

Submitted : July 30, 1954

GURVICH, I. G. 7

Determination of potassium from rocks and minerals by the flame photometer method. I. G. Guryich and E. I. Khanayev (Inst. Geol. Ore Deposits, Petrography, Mineral.

and Geochem., Acad. Sci. U.S.S.R., Moscow). Izvest. Akad. Nauk S.S.S.R., Ser. Geol. 1956, No. 3, 101-9.

Purpose of the study was the development of a rapid method of detn. of K of geol. formations applicable to problems of measuring geol. age by the K-A method. Two problems were involved in the development, viz., that connected with development of a method of soln. of the alk. metals from geol. formations and that assecd. with the flame photometer method for detn. of concn. of alk. metals in solns. The dissolving of alk. metals from rocks was accomplished by the Smith method. A diagram of the flame photometer app. arrangement is given, and its method of operation described. Measurements of interference of Na, Ca, Mg, Ba, and Sr with K were made. The action of LiCl was studied. Addn. of LiCl at a concn. of 10 g./l. reduced the total intensity of emission, but at the same time sharply reduced the error of measurement in all concn. ranges studied. All measurements were made with a K concn. in the solns. of about 100 mg./l. Reproducibility of the flame photometer method was $\pm 0.5\%$. Two series of measurements were made by using the minerals, orthoclase and microcline. Ten measurements were made for each mineral. K content of orthoclase was $0.50\% \pm 0.8\%$, and for microcline was $10.24\% \pm 0.8\%$. On an av. the total relative error of measurement of K can be given as $\pm 1\%$. In 1 working day one person can make 2 or 3 analyses.

Gladys S. Macy

RM

WJL

GURVICH, I.G.

USSR/ Physical Chemistry - Thermodynamics. Thermochemistry. Equilibrium.
Physicochemical analysis. Phase transitions

B-8

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11168

Author : Amirkhanov Kh. I., Gurvich I.G., Matizen E.V.

Title : Concerning the Article by V.P. Skripov and V.K. Semchenko
"Phase Transitions of Second Kind and Critical Phenomena. V. On Heat
Capacity Maximum in Critical Region of Stratification of Binary
Liquid Systems".

Orig Pub : Zh. fiz. khimii, 1956, 30, No 5, 1158-1161

Abstract : Discussion article. See RZhKhim, 1956, 18737

Card 1/1

Category : USSR/Atomic and Molecular Physics - Statistical Physics
Thermodynamics

D-3

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3459

Author : Amirkhanov, Kh.I., Gurvich, I.G., Matizen, E.V.
Title : Concerning the Article by V.P. Skripov and V.K. Semenchenko, "Phase
Transitions of the Second Kind and Critical Phenomena, V. On the
Maximum Specific Heat in the Critical Region of Stratification of
Binary Liquid Systems"

Orig Pub : Zh. fiz. khimii, 1956, 30, No 5, 1158-1161

Abstract : See Ref. Zh. Fiz. 1956, 16356

Card : 1/1

GURVICH, I. G.

11-4-9/23

SUBJECT: USSR/Photometry

AUTHOR: Gurvich, I.G., and Khanayev, Ye. I.

TITLE: "Speed-Up Method for Determining Potassium in Minerals" (Uskorennyy metod opredeleniya kaliya v mineralakh)

PERIODICAL: "Izvestiya Akademii Nau, SSSR", Seriya Geologicheskaya, 1957, # 4, pp 104-107 (USSR)

ABSTRACT: The methods developed for determining potassium by Smith and Berzelius have certain disadvantages. The new photometric method is based on disintegration of minerals in molten calcium chloride, by heating the material to be tested with high frequency generators. After the material is ground to a fineness of 0.25-0.15 mm, 0.2 g are placed into graphite crucible, to which 1.2 g of calcium chloride is added. After dehydration, the crucible is lowered into a test tube, closed by a rubber plug, and heated by means of generators (of the type "УГЗ-30" LGZ-30) to 1500-1700°, at which temperature calcium chloride is liquefied and reacts violently with the tested material. By adding 100 cu cm distilled water and further dilution to a total volume of 500 cu cm, the grade of concentration is obtained by using the photometric method. Difficulties have been experienced

Card 1/2

11-4-9/23

TITLE: "Speed-Up Method for Determining Potassium in Minerals" (Uskorennyy metod opredeleniya kaliya v mineralakh)
at high concentrations of calcium and potassium at 50 mg/liter. One operator is capable of completing 20 tests in 2 days.
The article contains 2 tables, 1 figure and 1 diagram. The bibliography lists 5 references, of which 2 are Slavic (Russian).

ASSOCIATION: Institute of Geology of the Academy of Sciences, USSR
Institute of Geology of the Academy of Sciences, Gruzinian SSR
Central Chemical Laboratory of the Geologic Institute for Metal Deposits, Petrography, Mineralogy and Geochemistry of the Academy of Sciences USSR.

PRESENTED BY:

SUBMITTED: December 12, 1956

AVAILABLE: At the Library of Congress.

Card 2/2

GIL'BERSHTEYN, P.G.; GURVICH, I.I.

Use of two-dimensional models in studying front waves from strat
of varying thickness. Izv. AN SSSR. Ser. geofiz. no.11:1605-1619
N '63. (MIRA 16:12)

1. Moskovskiy geologorazvedochnyy institut im. S.Ordzhonikidze.

USSR/Geophysics - Seismographic Prospecting GURVICH, I. I.

Aug/Aut 53

"Review of 'Instructions for Seismic Prospecting,'" (I. Parzen and A. Yatsen'yeva, reviewers)

Iz Ak Nauk SSSR, Ser Geofiz, No 3, pp 271-274.

Review the symposium "Instruktsiya po geofizicheskoy seysmoprosvedke," a compilation of works contributed by A. S. Kurpan, V. N. Nitrofanov, N. A. Kobalavskaya, T. E. Sokolova, K. S. Andriyeva in participation with I. I. Gurchich, V. G. Skiff, and G. N. Shablinskiy, and edited by I. E. Kupolov-Yarepolk. Published by the State Geology Press, Moscow, 1952, 94 pp, 5,000 copies, price 2.92 rubles.

252T90

GURVICH, I.I.; RYABINKIN, L.A., redaktor; BABINTSEV, N.I., redaktor;
MALEK, Z.N., tekhnicheskiy redaktor

[Seismic prospecting] Seismorazvedka. Moskva, Gos. nauchno-tekhn.
izd-vo lit-ry po geologii i okhrane neдр, 1954. 342 p. (MLRA 7:9)
(Prospecting--Geophysical methods)

GURVICH, I. I., NOBOKANOV, V. P., and P. ZANOV, I. N.

"High-Frequency Amplifier for Seismic Prospecting on the Basis of
the Amplifier at the Station EKO-1," *Razvedka i Otkrytiya*, No. 2, pp
31-32, 1958

SO: W-31029, 2 Sep 55

GURVICH, I. I.

Vibration platform for examining seismometers. Prikl. geofiz.
no. 11:142-151 '54. (MLRA 8:10)
(Seismometers)

GURVICH, I. I.

Determining the effective speed of reflected waves by means of
combined counter hodographs. Trudy MGRI no.26:196-203 '54.
(Seismology) (Hodograph) (MLRA 8:12)

GURVICH, I. I.

The distorting effect of various types of compensators in re-
cording reflection data. Trudy MGRI no.28:179-191 '55.

(Seismometers)

(MLRA 8:6)

GURVICH, I.I.

Analysis of reflections from thin layers. Prikl.geofiz. no.15:33-
52 '56. (MLRA 10:1)
(Seismology) (Prospecting--Geophysical methods)

GURVICH, I.I.

Application of nonlongitudinal profiles in the refracted-wave
method. Prikl. geofiz. no.16:85-97 '57. (MLRA 10:8)
(Seismic waves)

GURVICH, I.I.

Frequency selection of seismic oscillations. Izv. vys. ucheb. zav. i
geol. i razv. 1 no.8:110-125 Ag '58. (MIRA 12:9)

1. Moskovskiy geologorazvedochnyy institut im. S. Ordzhonikidze.
Kafedra razvedochnoy geofiziki.
(Prospecting--Geophysical methods)
(Seismic waves)